

REMARKS

This paper is filed in response to the outstanding Office action mailed on February 18, 2009. In that Office action, claims 1-16 are objected to for minor informalities; claims 1, 11-14 and 16 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite; and claims 1-16 are rejected under 35 U.S.C. §102(e) as being purportedly anticipated by prior art. In light of the foregoing amendments and following remarks, applicants respectfully submit that pending claims 1-16 are in condition for allowance and respectfully solicit same.

Claim Objections

In the outstanding Office action, the Examiner objects to claims 1-16 for minor informalities. Particularly, claim 1 is objected to for reciting “the axis thereof.” In response, applicants have accordingly amended claim 1 to recite “the optical axis of said focusing lens” rather than “the axis thereof.” The Examiner also objects to claim 6 and indicates that the word “second” in line 3 thereof should be removed. However, in light of the foregoing amendments, applicants respectfully submit that claim 6 is in proper form and that no such corrections are required. Furthermore, the Examiner objects to claims 1-16 for failing to end with a period. However, as provided in pages 3-6 of the Preliminary Amendment submitted by the applicants on May 3, 2006, each of claims 1-16 does in fact end with a period, and therefore, no such corrections are required. As the pending claims are in proper form, applicants respectfully submit that the objections to claims 1-16 must be withdrawn.

Claim Rejections – 35 U.S.C. §112

Also in the Office action, claims 1, 11-14 and 16 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner asserts that the use of the word “inclined” in claims 1 and 11-14, and the reference to a “ground surface” in claim 16 render the respective claims indefinite. However, “[t]he test for definiteness asks whether one skilled in the art would understand the bounds of the claim when read in light of the specification.” *See Allvoice Computing PCL v. Nuance Communications, Inc.*, 504 F.3d 1236 (Fed. Cir. 2007). Moreover, “[a] claim satisfies the definiteness requirement of §112 ‘[i]f one skilled in the art would understand the bounds of the claim when read in light of the specification.’” *See Praxair, Inc. v. ATMI, Inc.*, 543 F.3d

1306 (Fed. Cir. 2008), citing *Exxon Research & Engineering Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001). As the limitations of the pending claims are sufficiently defined within the specification and one of ordinary skill in the art would clearly understand the bounds of the claims, applicants submit that the indefiniteness rejections of claims 1, 11-14 and 16 must be withdrawn, as discussed more specifically below.

Firstly, the limitation of an “inclined” end face is defined by the pending claims as being configured “so that the light beam leaves the plate via said inclined end face without being subjected to significant refraction or reflection.” While the claim language in itself is sufficiently definite to one skilled in the art, the definition of an “inclined” end face is also well-defined throughout the specification and drawings of the present application. For instance, with reference to Figs. 1-3, paragraph [0039] of the present application (Publication No. 2008/0291427) teaches that the end face 8 at the second end B of the plate 2 “is inclined so as to be struck substantially perpendicularly by the light beam 7₂.” Moreover, the configuration of the inclined end face is such that the light beam 7₂ “leaves the plate through said inclined face 8 without being subjected to any significant amount of refraction or reflection,” as specified in the claims. The limitation of an inclined end face, as defined in the claims and especially when read in context of the specification and the drawings, would be sufficiently clear and definite to one skilled in the art of optics and imaging devices. Accordingly, applicants respectfully submit that the indefiniteness rejection of claims 1 and 11-14 must fail and should be withdrawn.

Secondly, the limitation of a “ground surface” is taught in paragraph [0054] of the specification as “a ground or frosted surface interposed between the matrix [20] and the bottom face 4 of the plate 2” with reference to the embodiment of Fig. 10. Such a ground or frosted surface is easily understood by one of ordinary skill in the art of optics and imaging as a diffuser. In particular, the term “ground surface” is commonly used in the art to refer to a filter or screen which scatters light over a large solid angle. A ground or frosted surface scatters or diffuses light by reflecting from or transmitting through irregular surfaces. Accordingly, no additional clarification is required and the use of “ground surface” does not render any of the pending claims indefinite. Applicants submit that the indefiniteness rejection of claim 16 must also fail and should be withdrawn.

Claim Rejections – 35 U.S.C. §102

In the outstanding Office action, claims 1-16 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 7,315,632 (“Spycher”). However, to anticipate a claim, MPEP §2131 requires that a single prior art reference must disclose each and every limitation of the claim. Applicants believe that each of the pending claims includes one or more elements that are not disclosed by Spycher, thereby overcoming the aforementioned rejection, as discussed more specifically below.

Among other things, amended claim 1, as well as claims 2-16 dependent thereon, specifies an optical plate, a finger-press surface, at least one light source and imaging means. The optical plate and the light source is configured to emit a light beam such that the light beam propagates inside the optical plate by alternately reflecting against the first and second main faces thereof up to the second side face of the optical plate. The optical plate includes a second end face that is inclined such that the light beam leaves the optical plate via the inclined end face without being subjected to significant refraction or reflection. The device additionally includes an externally disposed focusing lens facing the inclined face and having an optical axis extending substantially parallel to the inclined face. A mirror is also provided and arranged to face an inlet surface of the focusing lens. The mirror is oriented so as to receive a portion of the light beam from the inclined end face and reflect the portion of the light beam along the optical axis.

Spycher fails to disclose such elements. Spycher is directed toward a device for imaging fingerprints including a transparent body 1, a support surface 2, a light source 8, a mirror 30, a focusing lens 32 and a detector 22. When in use, light from the light source 8 is emitted upwardly through the transparent body 1 and reflected from the support surface 2 and a finger thereon. The reflected light is directed to the mirror 30, which redirects the light through the lens 32 and toward the detector 22. With reference to Fig. 4, the Examiner asserts that Spycher teaches all of the limitations of independent claim 1. Contrary to the present application, however, the optical components of Spycher are arranged along one axis of the transparent plate. As annotated in Figs. 4 and 5 of Spycher provided below, the light source, mirror 30, focusing lens 32 and detector of Spycher are configured along the lengthwise axis of the transparent body 1.

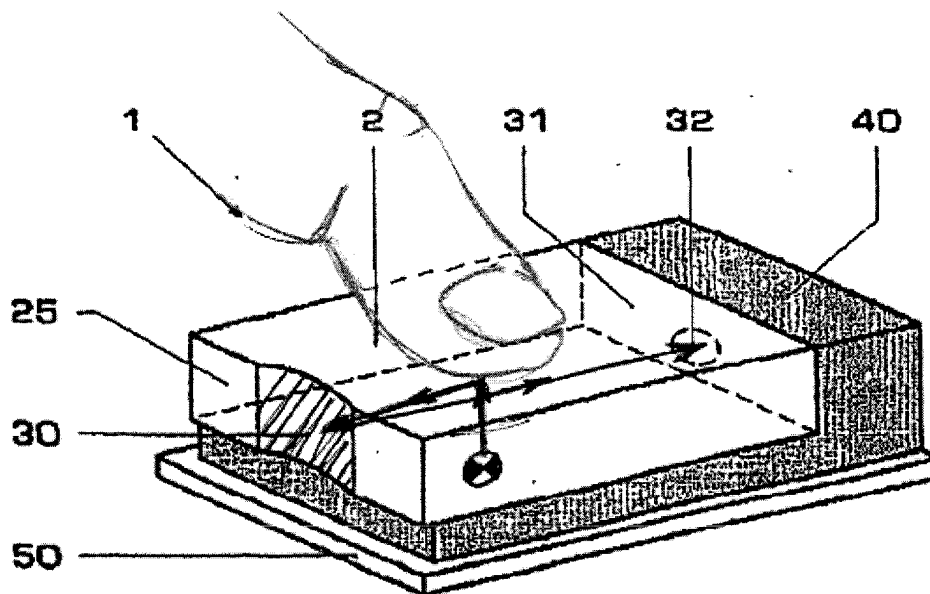


Fig. 4

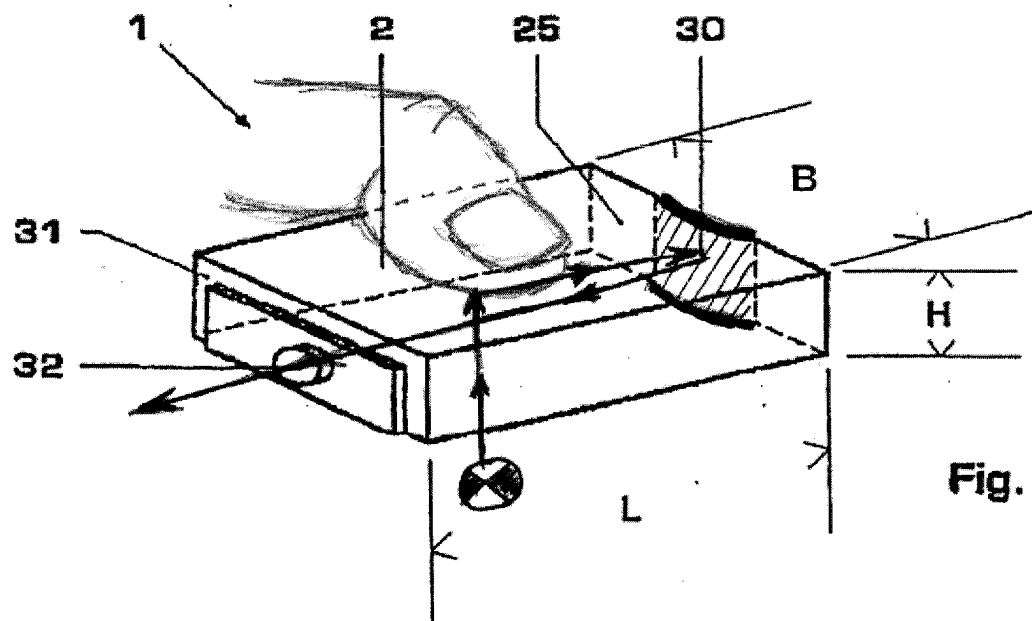


Fig. 5

After having been reflected against a finger, the light rays emitted from the light source propagate toward the mirror 30 along the lengthwise axis of the transparent body 1, and further, are reflected in the opposite direction along the lengthwise axis of the transparent body 1 toward and through the lens 32.

In contrast, the lens of the present application is disposed externally with respect to the transparent or optical plate and transversally with respect to the main axis of the

transparent plate. As a result, at least one mirror must also be provided externally to the transparent plate so as to receive light rays exiting the respective end face of the transparent plate and to reflect the light rays towards the lens. Moreover, as the end face of the transparent plate of the present application is inclined, the mirror must also be inclined with respect to both the main axis of the transparent plate and to the axis of the lens. One significant advantage of such an arrangement is that the claimed device may be much shorter in length and more compact without adversely affecting performance of the device. An additional advantage provided by the present application is that the lens may be removably supported by a support, and further, may be slidably disposed in such a support to facilitate adjustments thereof. Furthermore, all of the optical components of the claimed device may be contained within the height defined between the two opposing main faces of the transparent plate.

Spycher fails to disclose at least: (i) an optical plate and a light source arranged to emit a light beam which propagates inside the optical plate by alternately reflecting against the first and second main faces thereof up to a second side face of the optical plate; (ii) a second end face that is inclined so that a light beam leaves the plate via the inclined end face without being subjected to significant refraction or reflection; (iii) an externally disposed focusing lens facing the inclined face and having an optical axis extending substantially parallel to the inclined face; and (iv) a mirror facing an inlet surface of the focusing lens and oriented so as to receive a portion of the light beam from the inclined end face and reflect the portion of the light beam along the optical axis, as specified in amended claim 1. Accordingly, applicants respectfully submit that the anticipation rejection based upon Spycher and asserted against the claims must fail and should be withdrawn.

CONCLUSION

In light of the foregoing, applicants respectfully submit that each of the currently pending claims, i.e. claims 1-16, are in a condition for allowance and respectfully solicit the same. If a telephone call would expedite prosecution of the subject application, the Examiner is invited to call the undersigned agent. The undersigned verifies that he is authorized to act on behalf of the assignee of the present application.

Application No.: 10/595,668

Docket No.: 28944/50037

Dated: May 29, 2009

Respectfully submitted,

By 

Thomas A. Miller

Registration No.: 40,091

MILLER MATTHIAS & HULL

One North Franklin Street

Suite 2350

Chicago, Illinois 60606

(312) 977-9903

Attorney for Applicant